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Health - Education Series, No. 27

NERVE-WASTE

BY

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Nerve-health is simply the *surplus*
of nerve-force *income* over nerve-
force *expenditure*

Published by the
Health-Education League
8 Beacon Street
BOSTON, MASS.

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NERVE-WASTE

Not the least of the colossal and wholly needless wastes for which our descendants will blame us heartily is the waste of nervous energy. There are two ways especially in which this matter may be viewed, one or the other of which will appeal to nearly everyone, namely, the money-equivalent and the happiness-equivalent of nerve force.

THE MONEY-VALUE OF HEALTHY NERVES.

The conditions are too complex to allow the calculation, at present, of the money-value of a strong and thoroughly efficient nervous system, but it certainly is very high, almost as high as that of health, and oftentimes far higher than that of the legs or fingers about which the courts have nowadays such clear ideas.

Every fundamental process of both mind and body each moment of our lives is absolutely dependent on the

nervous system; no one can do anything at all without it, either for his loved and dependent ones, or for himself. Efficiency of every conceivable kind immediately depends upon its proper action, all the time. The gross action of the trunk and arms by which the laborer wields his pick, not less than the subtle cunning by which the painter applies his brush, or Ysaye moves his bow, is always dependent upon the nervous system in a most literal sense.

Now the large money-valuation of such indispensable factors of health is no whit the less real because not yet computable exactly in dollars. The money-equivalent of nerve-waste is not less, nor less important, because unappraiseable; the waste is not less real because subtle, and incurable by surgery.

THE HAPPINESS-VALUE OF HEALTHY NERVES.

More precious than money to many men and women is happiness, and happiness is wholly dependent in the long run on the general normality of the

nervous system, chief connector as it is of body and mind. Pleasant feelings as contrasted with unpleasant are represented chiefly by the healthy activities of certain brain-processes, about which we are learning more every year, but which it would be difficult to discuss suitably here.

NERVE-WASTE LOWERS THE BODY'S RESISTANCE TO DISEASE.

The lowering of the tone of the nervous system has a most powerful effect for harm and danger in its depression of the bodily powers of resistance to disease-attacks. The mode of action of this important nerve-influence on the blood also is too complex to be here described, but its great importance must be clear to everyone who has observed such relations at all in himself or in his associates. Infections come chiefly when we "get run down." This expression means largely a lowered balance of nerve-wealth, too little of it being left to maintain the blood's basal powers of resistance to disease. Here is a danger of continued nerve-

waste that is extremely often a matter of weeks of illness, large financial expense, and, of course, often of death itself. Could there be suggested stronger incentives to nervous health than these?

CREDITS IN THE NERVE-FORCE ACCOUNT.

The chief means or factors in the maintenance of strong and active nerve-cells and nerve-fibers in the brain and spinal cord are about four in number: adequate *sleep*; adequate *nourishment*; adequate *muscular exercise*; and adequate *chemical stimulants* produced in the body. When these four are ample (but not excessive) the nervous system is maintained for seven or eight decades an efficient working machine, a money-making mechanism, and, other things being equal, the sagacious individual who so maintains it enjoys his life to its uttermost, as the natural reward of his intelligence and care. Happiness then and earning power (a reputed chief means thereto) certainly rest mainly upon efficient nerves.

SLEEP.

Of the four mentioned factors in the income of our nervous force, adequate sleep perhaps is of the greatest practical importance. The great majority of people who are really busy probably get less sleep than they need, while what they do get is often of an inferior quality, that is, not true sleep, not "sound."

Perhaps the main reason why we sleep too little is the general (excessive) use of brain-stimulants: coffee, tea, cocoa, tobacco, alcohol, all or one or more in a day. Partly because at times they have enjoyed good sleep immediately after taking these, many un-medical persons are firmly convinced that they are not kept awake by these stimulants, when, in reality, as a rule they are. Of course, under some conditions one may sleep in spite of them, for complex reasons that no one can as yet fully explain.

Throngs of sedentary people especially are kept from feeling normally sleepy at the proper time by these stimulants of the insistent current of ideas

and feelings. Thus the physiological bedtime is ignored in favor of an artificial hour dictated by these drugs, more or less injurious, just mentioned, and by others less commonly used, but still more harmful in the long run, to nightly rest.

Another reason, certainly, for the all too frequent deficiency in sleep, both in quantity and in quality, is the unnaturally high nervous pressure at which many of us Americans live, although to do so is neither rational nor hygienic. Undue and unreasonable indulgence in evening entertainments is a third important preventable cause of our common lack of sufficient sleep.

WHAT SLEEP DOES FOR US.

The reason why abundant good quality sleep is absolutely essential to all who would "live long and prosper," and be happy meanwhile, is as simple as it is important: It is only during sleep that the exceedingly minute and delicate nerves have a good chance to repair the wear and tear of the over-

busy day. Without this nightly repair the nerve-cells gradually lose their normal vigor and size, and the basis of "nervous prostration" and of other mental conditions even worse is laid, ready for the unusual strain or bodily illness. If it comes, we may promptly have a nervous breakdown, requiring a year or two to mend, or an infection of some sort, perhaps even more dangerous to life and the essential happiness.

In children and youth sleep-time is the period of bodily growth as well as the occasion of the replacement of the food-supply in each nerve-cell which the day's activity usually has quite used up.

The outside aspect of this sleep deficiency comes to us even more insistently from the statistics of the lunacy commissions and from reports of nerve-sanatoria. One is inclined to think that even the wretched divorce courts would be less over-crowded were these unrested brain-cells returned to their primitive natural vigor. No homily on "the pace that kills," however, nor eulogy on "the simple life" (though

great the universal need of both) is contemplated here, but only a simple enumeration of the chief of the conditions that keep too many of us Americans, thoughtlessly or by compulsion, from sleeping our proper and needful physiological allowance.

TOO LITTLE SLEEP.

It is not so much a matter of life and death (although every physician must realize how very many lives are shortened by needless nerve-fatigue), not so much a quantitative affair of mortality statistics as one of quality—*the satisfaction in living*. No moral philosopher can get behind or beneath this as the greatest good of our mortal existence. We all seek it, and can by no hook nor crook help seeking it, as the forest trees seek the open sunlight above. That one, and perhaps the chief cause of this quantitative defect in our happiness, not measureable, but none the less immeasurable, is *too little sleep* (the deficiency accumulating slowly year by year), becomes more and more obvious

to those who best understand the extreme delicacy and the complexity of the underlying bodily conditions.

THE ADEQUATE AMOUNT OF SLEEP.

The number of hours of sleep needed by each individual is easily told. The figures can be relied upon for the majority of people; occasionally adult persons are met with who need more; and now and then one who really needs only less tries to convince the public that they are like him in this important respect—contrary to fact. Grammar-school pupils (none should ever study out of school!) require on the average *at least* ten hours of *real* sleep (say from nine P. M. to seven A. M.); high-school pupils and youths from thirteen to seventeen years of age need scarcely less sleep than ten hours; from eighteen years on most people demand from eight to nine hours of real sleep daily.

FRIENDS AND FOES OF SLEEP.

Drugs to promote sleep should never be taken during health, for the rest

that they secure always has factors of nerve-waste rather than of nerve-saving. Hygienic means to secure sleep are always ready at hand, and will be found efficient unless there be some underlying cause of the insomnia curable only by medical means of one kind or another. A sharp, brisk walk in the open air,—long enough to fatigue a little,—a hot liquid lunch, a warm bath, complete active muscular relaxation (a habit easily acquired), singly or together will combine with freedom from worry to put almost any normal person to sleep as Nature intends. Then one will awaken with something at least of a feeling of enthusiasm for the work of the day. If this be lacking, or if there be a real distaste for it, either the work or the rest is wrong.

ADEQUATE NOURISHMENT.

The second factor of nerve-health mentioned is adequate nutrition for the exceedingly delicate and subtle elements of the nervous system (termed by the physiologists the neurones). Of ex-

treme frailness, minuteness and delicacy, yet extending everywhere throughout the whole body, these structures, all together commonly called "the nerves," require an abundance of the proper kind of food in the blood that comes to them in such very large amount. They require no special diet (students' commons, however scientifically conducted, no longer furnish the brain workers an excess of fish, because, "like the brain, it is rich in phosphorus"), nothing exceptional, unless it be *an abundance of fat* somewhat above the average individual consumption in America.

There are now so many usefully simple accounts of what different kinds of people engaged in different amounts of muscular work should eat that no one need lack information as to a diet suited to his needs. The publications of the United States Department of Agriculture devoted to this subject are of much practical use, and many of them are to be had for the asking.

ADEQUATE MUSCULAR EXERCISE.

Much muscular exercise (especially of the kind that needs and uses little thought or care) keeps the nerve-cells supplied with the necessary abundance of blood ever freshened and renewed, and invigorates the whole apparatus by which alone we can *do* things; namely, the nerve-muscle mechanism.

Civilized man has lost his natural indicator for the need of sleep: namely, abundant muscular exercise pure and simple, unmarred by accompanying nerve-fatigue. We are apt eternally to forget that our brains were evolved chiefly as organs by which our muscles may be controlled, and that, lacking abundant outdoor exercise, their nourishment may be deranged.

NATURE'S GOOD EXAMPLES.

We are apt to call Towser and Tabby "lazy" animals, but no physiologist doubts that they live more hygienically in respect of sleep and exercise than do their human masters or mistresses, although many of these domestic pets, too, that are city-livers, get only a

small fraction of the exercise they really require. But, like their wild brothers in the forest and on the plains, they would like to exercise much. In the cities well-to-do multitudes live and die without experience of the "pure delight" of unadulterated muscle-fatigue, and of the sudden and deep sleep that normally follows a day of purely muscular work. Here, then, is one reason why some of us sleep too little and too ill, save, perhaps, when in camp on our vacations in the wild. Should not these experiences teach us something? Should not they tell us, for example, that *if we lead sedentary lives, we must force ourselves to take systematic outdoor exercise of some kind, year in and year out, during life.*

ADEQUATE INTERNAL SECRETIONS.

The important glands which produce various chemical stimulants of the nerve-cells have indispensable value in maintaining the normal nervous system, but cannot be, nor need they be, discussed here.

NERVOUS EXPENDITURE: DEBITS

It is to the other side of the vital ledger, to its debit values, that we now turn, for it is the main object of this particular Booklet to point out to busy and oftentimes thoughtless folk the sad and frequent and often permanently disabling injuries coming from the extravagant use of this vital income of nerve-strength, more precious far than any income payable by gold or check.

This nervous account is always a running account; that is, there is no such thing as the considerable accumulation of unused assets of nervous energy. If not regularly used, this form of current wealth spoils and wastes not only itself, but its possessor! The nearest that any man can come to the storage or hoarding of this form of treasure is the acquirement of a fixed habit of systematic muscular exercise out of doors; and the interest this habit pays is most gratifying, besides being compounded at very frequent intervals, and with many a bonus (of enjoyment).

SUITABLE WORK IS ECONOMICAL OF NERVE-STRENGTH.

Before we consider briefly some conspicuous modes of nerve-waste, it is important that a most vital and practical fact be clearly understood; namely, that strictly routine work, even hard work, *so long as it be balanced by a fitting support of nerve-force income*, does no harm, although, of course, such work expends much nerve energy. The employment of nervous energy, mechanical in action, for work involving no emotionnl strain of any kind, would be comparable to the using of an income for food, shelter, fuel, clothing, and the necessary amount of recreation,—a prime necessity and a very condition of life. Unaccompanied by injurious phases of nerve-expenditure, some few of which are now to be indicated, suitable work is a substantial pleasure to the normal individual, and *makes for nervous health and happiness* as does nothing whatever else. The suggested confusion between such investment, normal expenditure, and extravagance constitutes one of the stumbling-blocks to a general understanding of the whole matter.

WORRY AS NERVE-WASTE.

Pre-eminently notorious among the common modes of nerve-extravagance and waste is *worry*. This is the sheerest wasterulness in all our lives—expenditure with nothing and worse than nothing in return. Worry, when needless, is the very stock-gambling of extravagance in vital forces without possibility of a “bull market” or a “bear market” to recoup in,—dice-throwing with the dice loaded always against you. In the terms of our discussion, every hour spent in worrying about some evil, whether real or imaginary, is a large and wholly needless check drawn on your bank-balance of bodily and mental strength. If one borrow trouble the rate of interest that one has to pay is rank usury.

WHAT IS WORRY?

We may define worry as *the habit of wasting the soul and the body on evils that have not come*. Many of its victims might properly define it in the same terms that General Sherman used in regard to war,—brief, but at once philosophic and expressive. James

Russell Lowell never wrote anything more true than his statement that "the misfortunes hardest to bear are those that never come," for the human imagination running riot is very apt to make things seem *worse* than kindly Nature often allows them actually to be.

Worry is described by the physiologists as essentially a form of more or less chronic fear,—fear that something evil is going to happen. Fear, of course, does not well become the strong man or woman; although, as everyone who is grown up knows too well, some worries cannot be avoided in this troubled life (fear of the illness and death of friends, for example). These must be met as is fitting to the brave.

Since the valuable physiologic work of Austin and Sloan on the nerve-cells of rabbits, we know the actual effects which fear produces in the nervous systems of animals, and we know that the effect is very serious and widespread in the body. Worry must produce this same effect, and often to a greater degree even than a period of terror, which of necessity can last but a short time, so exhausting is it to the brain.

FEELING vs. LOGIC.

Such facts (and they are really facts) ought to be more preventive of extravagance in worry than any sort of mere logic would be. The ordinary anti-worry argument of course reads: If what you worry about can be prevented or cured, prevent or cure it rather than suffer so; if it cannot be cured or prevented, why waste energy and time suffering because of it? Excellent logic, certainly, but woefully incompetent, as most of us well know, to restore the wasting brain-cells, or to abolish unaided this worst of bad habits.

The reason why so few worriers adopt the frequently expressed advice not to worry is that worry has the emotional basis just now suggested, that it is a *feeling*, with a tremendous motive power behind and beneath it, hard to be controlled. We need not pause to describe in detail the physical and mental effects and conditions of fear and worry; suffice it to say that its depressing influence arises and is felt in well-nigh every portion of the body,—bowels, stomach, heart, blood-vessels, lungs,

brain, muscles and nerves,—and therefore unfits its victim for every free and useful act.

The motive power of much of our human activity is emotion or feeling, and those emotional states that depress the nerve-centers tend to paralyze action, lessening at the same time our desire to do things, and our power of doing them well when we try.

THE HAPPINESS FACTOR.

Here it is that happiness comes into the matter. Multitudes of men and women learn sooner or later that not always, by any means, as we have often heard, is the race to the swift, or the battle to the strong; often, very often indeed, one inclines to think that both go to the *happy*,—lords of the world.

Saleeby puts it well, although perhaps too strongly, when he says: "There is no human end but happiness, high or low. Its one absolute negation is neither poverty nor ill-health, nor material failure, nor yet starvation—'he that is of a merry heart hath a continual feast.' The one abso-

lute negation of happiness is worry or discontent. A prosperous society, consisting of strenuous worried business men, who have no time to play with their children, or listen to great music, or gaze upon the noble face of the sky, or commune with the soul . . . such a society may be as efficient as a beehive, as large as London, and as wealthy, but it stultifies its own ends, and it would be better not at all."

Not only work, but rest, likewise, is really efficient only when the soul is care-free; this freedom from worry, as Saleeby has so importantly pointed out, is the very essence and the quintessence of every real *holiday*. There is, too, a fine philosophy that makes of the hard-worked life a holiday, that refuses to be worried whatever come, trusting, with Tennyson, that "all is well."

SOME OF THE HARM THAT WORRY DOES.

But it is not only work and rest alone that are interfered with by the bad habit of worrying—it disturbs also some of the most fundamental conditions of good health. No mental cir-

cumstance so decidedly harms digestion and assimilation, or causes so commonly the nervous dyspeptic habit. This in itself means a large group of harmful influences, little short of actual disease. Here we have one of the "vicious circles" the doctors talk about,—worry impairs digestion, which in turn leads to more worry through the injury to the delicate structures of the brain and nerves.

This general condition more than anything else is the cause frequently of the premature loss of beauty in women and of youthfulness in men, for both men and women age rapidly and become wrinkled betimes when unhappiness and the dyspepsia of hurry and worry are the demons of their passing days. Insomnia, also, accounts for some of this, and, as we have already pointed out, worry is one of insomnia's most frequent causes.

Worry is distinctly a matter of habit, and one which, like most bad habits, is far more easily acquired than abandoned. It is largely a matter of will-power whether it be allowed to take possession of the individual, body and soul, or not.

CURABLE PHYSICAL CAUSES OF WORRY.

The causes of our worry are often more purely physical than we suppose. Mind and body are in the closest relation to each other, and, strangely enough, sometimes conditions which seem to us to be purely mental, and perhaps even beyond our control, so that we worry about them, turn out, like our other depressed moods, to be based on simple physiological derangements, temporary, and easily curable. A brisk walk in the open air, a visit to a vigorous and jovial friend, even a cathartic, frequently sweeps the worrisome cobwebs out of a troubled mind.

We cannot afford to forget this thorough-going interdependence of our bodies and our minds, for it will often lead us into simple but substantial habits of good hygiene, wholly incompatible with the persistence of many of the trivial worries in our souls. If genius be, as has been said, in part "an infinite capacity for taking pains," let us all be geniuses (and so happier than most) in taking care that needless petty worries do not spoil any of our rapidly passing days or hours! No one can afford this habit, for it costs too much of our life.

EMOTIONALITY AS NERVE-WASTE.

Other modes of waste in nerve-values when combined are of much importance, although together probably less harmful to life efficiency than worry. One of these other ways of extravagance is the habit of excessive emotion pleasant or unpleasant, for even an excess of joy will tire, and that unduly, the nervous centers. This circumstance, it is likely, depends primarily on the very large proportion of the nerves and muscles that are strongly active in any well defined emotion or feeling, and this is so whether gross muscular movements be discernible or not. Muscle constitutes nearly half the mass of the body, and practically all of it is set in some degree of activity as a factor of joy or grief or love or fear, and with it most or even all of the nerves are working more or less actively.

The emotional aspect of the mind is a most important phase of it, and its high tension oftentimes makes rapid inroads, far more rapid than is appreciated at the time, on our bank-

account of nerve-energy, on the nervous "reservoir," as McDougall and Claparède call it. "A short life and an over-emotional one" would be a motto far less expedient for most men and women than a long life and a less emotional one—for the nerve-cells wear out!

Not only strong emotion, intense, but relatively brief, but unpleasant feeling of lesser degrees tires the nervous system at a wholly undue rate. Bickerings and even mild quarrelings, continued feelings of resentment for injury to one's egotism, jealousies of low-grade intensity, and all such depressing feelings, lower the nerve-balance, because they are apt to be long continued, or frequent, or both. Unpleasant emotion of every sort lowers the vitality *in proportion to its intensity and duration*, just as pleasant emotions pay great dividends of vital strength (and of happiness, too!).

THE HABIT OF DISORDER AS NERVE-WASTE.

Every keen observer of human behavior distinguishes at a glance the dis-

orderly person from the orderly, but not all of them realize that order, besides being attractive (when not overdone), is eminently economical of nerve-energy. This principle applies alike to bodily and to mental orderliness. Take, for example, the routine formulæ required of telephone operators and see the immense saving, not only of time, but of nerve-strength on the part of the young women sitting before the switch-boards.

VALUE OF CONCENTRATION.

Another kind of mental order is closely related to the principle of the concentration of attention, so important in education. To concentrate fully the attention means to attend to only one thing at a time—that one thing then receiving your entire energy and care. This principle is that on which the nervous system acts in controlling our bodily movements, and is, therefore, the only normal mode of action for our minds as well. *Frequent change and rest, but your entire force of mind on*

every portion of your work or your play seems to be the ideal condition of nervous economy and of efficient effort as well. "One thing at a time, and that done well, is as good a rule as any can tell," is a motto as scientific as it is ancient, for it makes not only for success, but for a large bank-balance of nerve-force. No habit which children can acquire or adults practice is more essential to true success than this one, for with this habit it is difficult for a person to be an actual spendthrift of his nerve-strength, since every expenditure brings him in return something a little worth while, be it only the practice in mental power.

EXTREME MONOTONY AS NERVE-WASTE.

This form of prodigality in nervous force and endurance applies especially to life in general in the country districts, and to all occupations too narrow and unvaried to be natural. This wastefulness of nerve-health is firmly based on physiologic and psychologic principles of the most primary kind and importance, on those especially underlying

fatigue and the blood supply of the different parts of the body.

Owing to the technicality and complexity of these relations, however, it is not fitting to do more in this place than to suggest its importance and to insist that normality of the nerves is dependent on *frequent change*, leading to a re-creation of nervous efficiency. No school and no shop realizes practically as yet the great importance of this matter from a purely economic point of view, not to mention the human side, quite as important in the end.

OVER-STIMULATION OF THE SENSES AS NERVE-WASTE.

Another conspicuous way in which a variable amount of our capital of nerve-force, especially in the cities, is needlessly dissipated, is by the useless over-stimulation of the senses. For practical purposes the senses most concerned in this for the majority of people are hearing and vision, the former especially. The nervous income is wasted unduly, and far beyond general understanding, in short, by too many loud

and disturbing sounds : fire alarms, locomotive whistles, automobile horns, carts, rough and hurried milkmen, bells, vibrating trolley-car trucks, etc., almost without end.

These and other loud sounds keep the nervous system irritated, for most of them are purely noises with nothing pleasant about them, save to the boyish irresponsibles that produce or allow them. Moreover, these startling noises, besides preventing sleep and over-stimulating the nerves, are producing deafness in multitudes of us, the ear-specialists say, and this partial deafness serves as an important secondary source of nerve-strain.

In a wholly similar way parts of our cities, and many of our playhouses, etc., are over-lighted by over-bright and flashing signs, and the eyes and nerves strained by moving pictures, flash lights, etc. To the numerous nervous systems that are none too strong, these and such as these are more important for harm than they may at first thought seem to be.

ADDITIONAL CREDITS.

We have all heard over-busy Americans, victims of "Americanitis," say that they would "rather wear out than rust out." They forget that a living animal body is a *self-repairing* mechanism. On this account there is no reason why it *should* wear out, save that inevitable far deeper necessity inherent finally in the self-limitation of every living individual.

"THE GOSPEL OF RELAXATION."

Philosophers and psychologists of many types, American as well as Oriental, have preached strenuously the "gospel of relaxation," as William James terms it. "It is an invaluable part of our Hindoo life," said to him a visitor in Cambridge, "to retire for at least half an hour daily into silence, to relax our muscles, govern our breathing, and meditate on eternal things." Every Hindoo child is trained to this from a very early age.

And the wise James observes: "I felt that my countrymen were depriving themselves of an essential grace of character. How many American chil-

dren ever hear it said by parent or teacher that they should moderate their piercing voices, that they should relax their unused muscles, and, as far as possible, when sitting, sit quite still? Not one in a thousand, not one in five thousand. Yet from this reflex influence on the inner mental states, this early over-tension, over-motion, and over-expression are working us grievous national harm." There can be no doubt at all that the principle underlying this statement is of great practical moment in the effective balance of our nerve strength.

GOING TO CHURCH.

Some accomplish the desired relaxation (but too seldom) by a weekly hour in church, and here is one more practical reason added to the conventional reasons why more of us should go to church and why many who go should go more often—to relax the undue and harmful tension of over-tense nerves and muscles and thoughts and feelings.

LIFE LOVETH A CHEERFUL LIVER.

It would require a set of volumes to suggest adequately the scientific basis of another important, but more general, contribution to the nerve-force account, namely cheerfulness, good humor, joy. Common uncritical observation is enough to show everyone how much more smoothly and tirelessly the vital mechanism works when oiled, so to say, with this inexhaustible lubricant; and, moreover, the stimulating influence extends outwards and about to all beholders—as if from a beautiful woman dancing.

GOOD HUMOUR vs. THE GROUCH.

We are beginning now to understand the physiology of this matter so important in the efficient happiness of the world's workers, and to realize that this belief of all the long ages of human history is not a tradition merely or only a whimsical dream but a warm, true, scientific *fact*. Some day perhaps a grouch will be a misdemeanor and the groucher legally a nuisance. In the perfect unity of mind and body *cheerful mental* living is only another aspect of normal *bodily* activity. No one surely can afford to deprive him-

self and his fellows about him of the great rewards of good humor. It feeds and fans the vital flame in every part and makes of the life-experience a treat worth while, laden from birth to death with an interest and variety of which the unhappy man can, for the moment at least, scarcely dream. Joy is compound interest for the joyful—and dividends to all applicants who have taken stock in it, even for a moment.

CONCLUSION.

Such, incompletely enumerated and inadequately expressed, are some of the elements of the physiology and hygiene of the nerves. One side of the balance-sheet, as it has been suggested here, is not more important than the other. It is the effective *working balance* that counts, and this, obviously, is as much a matter of adequate income as of wise expenditure. One can waste his substance and his "living" for all practical purposes as surely by improper attempts to *earn*, as by extravagance in *spending*. Nothing, in short, that man can attend to is more important for his happiness and efficiency than a wise consideration of both these phases of nerve-force as a means to nerve-opulence, the prime condition of a useful and happy life.

G.V.N.D.

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